

Work Order ID 81925***81925***

Page 1

March 21, 2012 8:10:06 AM

Item ID: D6101-013

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Saddle Billet

Start Date: 3/21/12 Start Qty: 20.00

20

Cust Item ID:

Required Date: 4/05/12 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan: CLDate: 12/03/21

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| D6101 | Rev B |

100

0.00

100

PURCHASING

0.00

Purchasing

Memo

Purchasing

Issue P/O: 16517

- a) Description: Alluminum billet
- b) 10.100" x 8.250" x 2.50" thick (+0.030 / -0.000)
- c) Tolerance on all dimensions are +0.030"/-0.000"
- d) Grain direction along 10.100" length
- e) Material: 7075-T7351 (QQ-A-250/12)
- f) Material certification required

CL 12/03/21 (20)

110

0.00

110

Receive & Inspect for Damage & Mat'l Certs

0.00

Packaging

Memo

Packaging

Ensure material certification is attached

12/4/15 (20)

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Work Order ID 81925***81925***

Page 2

March 21, 2012 8:10:06 AM

Item ID: D6101-013

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Saddle Billet

Start Date: 3/21/12

Start Qty: 20.00

20

Cust Item ID:

Required Date: 4/05/12

Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Quality Control

Ensure Material certification comply to Dwg D6101

CL 12/04/06

20

130

Identify as per dwg & Stock Location: 7AT47 0.00***130***

Packaging

Memo

0.00

Packaging

CL 12/04/06

20

140

QC21- Final Inspection - Work Order Release 0.00

140

QC

Memo

0.00

Quality Control

12/4/10

CL 12/04/10

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
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| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

Page 1

March 21, 2012 8:10:06 AM

Work Order ID: 81925

Parent Item: D6101-013

Parent Item Name: Saddle Billet

Start Date: 3/21/12

Required Date: 4/05/12

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP A: 01.05.04New IssueC

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D6101-013P Saddle billet | | Purchased | No | | | 110 | Each | 0.0000 | 1 | 20 | | | |

Pc 1/4/12 (20)

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

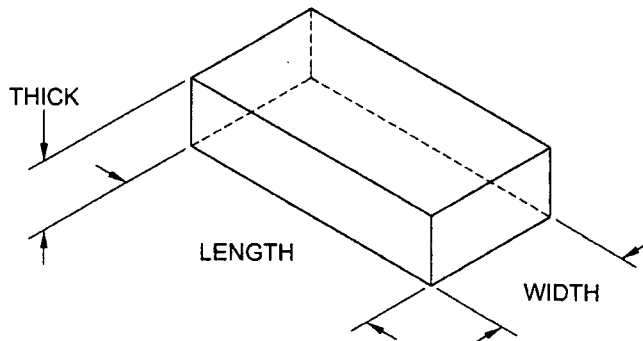
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
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NOTE: Date & initial all entries

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

| Part No. | Alloy | Length | Width | Thick | Grain Direction |
|-----------|--------------------------|--------|-------|-------|--------------------|
| D6101-001 | 7075-T7351 (QQ-A-250/12) | 6.000 | 6.250 | 2.000 | Along 6.000 Length |
| D6101-003 | 7075-T7351 (QQ-A-250/12) | 7.875 | 6.250 | 2.000 | Along 7.875 Length |
| D6101-005 | 7075-T7351 (QQ-A-250/12) | 5.000 | 8.250 | 2.500 | Along 5.000 Length |
| D6101-007 | 7075-T7351 (QQ-A-250/12) | 7.750 | 8.250 | 2.500 | Along 7.750 Length |
| D6101-009 | 7075-T7351 (QQ-A-250/12) | 8.700 | 8.250 | 2.500 | Along 8.700 Length |
| D6101-011 | 7075-T7351 (QQ-A-250/12) | 9.700 | 8.250 | 2.500 | Along 9.700 Length |
| D6101-013 | 7075-T7351 (QQ-A-250/12) | 10.100 | 8.250 | 2.500 | Along 10.10 Length |
| D6101-015 | 7075-T7351 (QQ-A-250/12) | 9.450 | 6.250 | 2.500 | Along 9.450 Length |
| D6101-017 | 7075-T7351 (QQ-A-250/12) | 6.350 | 6.250 | 2.250 | Along 6.350 Length |
| | | | | | |
| | | | | | |

RELEASED
09/01/15/W

CL12103/21
W10: 81925

| | | | |
|------------|-------------------------------------|--|----------|
| B | ADDED D6101-015/-017, ADD ASTM B209 | RF | 09.04.23 |
| A | NEW ISSUE | CP | 01.03.30 |
| REV. | DESCRIPTION | BY | DATE |
| DESIGN | CP | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| DRAWN | RF | | |
| CHECKED | <i>[Signature]</i> | DRAWING NO. REV. B | |
| MFG. APPR. | <i>[Signature]</i> | D6101 SHEET 1 OF 1 | |
| APPROVED | <i>[Signature]</i> | TITLE SCALE | |
| DE APPR. | <i>[Signature]</i> | SADDLE BILLET, 7075 NTS | |
| DATE | 09.04.23 | <small>COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small> | |



Castle Metals®

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 1 of 2

No de Formulaire d'Emballage / Shipment No:1258678

| | | | | | | | |
|---|--|--|--|---|--|--|--|
| Expédié de / Ship From: A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2 | | Vendu à / Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA | | Expédié à / Ship To: WILL CALL-MONTREAL 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN | | Livré à / Deliver To: WILL CALL-MONTREAL 835 SELKIRK AVENUE POINTE CLAIRE, QC H9R 3S2 CA | |
| Date d'expédition / Date Shipped 04-APR-2012 | | F.O.B. ORIGIN | | Modalités de transport / Freight Terms Prepaid | | Transporteur / Carrier MANITOULIN | |
| | | | | | | No du Bon de connaissance / BOL No 1258678-2 | |

| | | | | | | | |
|---|--|---|--|--|--|---|--|
| Détails d'expédition / Shipment Details | | | | Destination finale / Final Destination Branch - MON | | | |
| N° de commande / Order No 2088264 | | N° de ligne / Line No 1 | | N° d'article / Item No 752241.MO | | Description 2.5000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 10.1")) X 10.1 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 10.1")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/12 | |
| N° de bon de commande / Purchase Order No 16517 | | Nbre de pièces / Part Number YOUR ITEM NUMBER: D6101-013 | | Qté commandée / Ordered Qty 20.00 PCS | | Qté Facturée / Invoice Qty 20.0000 PCS | |
| Détails / Details | | Usine / Mill | | No de coulée / Heat Number | | Code méc / Mech Id | |
| N° de livraison / Delivery No : | | | | Pièces / PCS | | Largeur (Pouce) / Width (IN) | |
| 117 493207 | | 572947A0 | | 8 | | Longueur (Pouce) / Length (IN) | |
| 117 493207 | | 572947A0 | | 10 | | Qté expédiée / Shipped Qty(LBS) | |
| 117 493207 | | 569096A1 | | 2 | | 172.36 | |
| | | | | | | 215.45 | |
| | | | | | | 43.09 | |

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| |
|---|
| SHIP TO: A M CASTLE & CO 3050 SOUTH HYDRAULIC WICHITA, KS 67216 |
| SOLD TO: AM CASTLE & CO- SOLD TO 1420 KENSINGTON RD SUITE 220 OAK BROOK, IL 60523 |

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4250487

| | | | | | | |
|-------------------------------|-------------------------|---|-----------------------------|------------------------------|-----------------------|-------------------------------------|
| CUSTOMER PO NUMBER: 134472 | WORK PACKAGE: | CUSTOMER PART NUMBER: 752241 AMC CA-15413B R 3 | SHIP RUN/LOAD: 102217/10 | GOV'T CONTRACT NUMBER: | | |
| KAISER ORDER NO: 1124704 | LINE ITEM: 1 | SHIP DATE: 10-JAN-2012 | ALLOY: 7075 | CLAD: BARE | TEMPER: T7351 | PRODUCT DESCRIPTION: Sawed Plate |
| WEIGHT SHIPPED: 7164 LB | QUANTITY: 4 PCS EST. | B/L NUMBER: 2035227 | GAUGE: 2.5000 IN | DIAMETER/WIDTH: 48.500 IN | LENGTH: 144.500 IN | |

MHU 1556670: LOT 572947A0: 2 pieces;
MHU 1556676: LOT 569096A1: 2 pieces;

Certified Specifications

AMS 4078/RevJ
ASTM B 209/Rev10
BSS 7055/RevA
DPS 4.713/RevAH
GSS16100/RevG/Amd1

AMS-QQ-A-250/12
ASTM B 594/Rev09
CMMP 025/RevT
EAC MS1011/RevE
MMS 159/RevR

AMS-STD-2154/Rev98
BAC 5439/RevH
CSTI 006/RevD
GAMPS 9101/RevB
PS 21211/RevL

Test Code: 4297

Test Results

Lot: 569096A1 Cast 445 Drop 16 Ingot 3 Melted in USA

(ASTM E8/B557)
(EN 2002-1)

| | | | | | |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
| Tensile: | Temper | Dir / # Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
| | T7351 | LT / 2 (Min:Max) | 70.5 : 70.6 (486 : 487) | 59.3 : 59.8 (409 : 412) | 11.2 : 11.8 |

(ASTM E1004)
(EN 2004-1)

| | | |
|----------------------|----------|----------|
| Conductivity %IACS : | 40.9 Min | 41.7 Max |
| (MS/M) : | 23.7 Min | 24.2 Max |

(ASTM E1251)

| | | | | | | | | | | | |
|------------|------|------|-----|------|-----|------|-----|------|------|------|----------|
| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
| Actual | 0.09 | 0.19 | 1.4 | 0.04 | 2.4 | 0.20 | 5.6 | 0.03 | 0.01 | 0.01 | TOT 0.05 |





Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4250487

Lot: 572947A0 Cast 445

Drop 37

Ingot 2

Melted in USA

(ASTM E8/B557)

(EN 2002-1)

| | | | | | |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
| Tensile: | Temper | Dir / # Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
| | T7351 | LT / 2 (Min:Max) | 70.4 : 70.5 (485 : 486) | 59.1 : 59.3 (407 : 409) | 11.7 : 11.8 |

(ASTM E1004)

(EN 2004-1)

| | | |
|----------------------|----------|----------|
| Conductivity %IACS : | 41.1 Min | 41.4 Max |
| (MS/M) : | 23.8 Min | 24.0 Max |

(ASTM E1251)

| | | | | | | | | | | | |
|------------|------|------|-----|------|-----|------|-----|------|------|------|----------|
| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
| Actual | 0.07 | 0.17 | 1.4 | 0.06 | 2.5 | 0.20 | 5.8 | 0.03 | 0.01 | 0.01 | TOT 0.05 |

ALLOY LIMITS

| | | | | | | | | | | | | |
|------|------|------|-----|------|-----|------|-----|------|------|------|-------|------|
| | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER | MAX |
| 7075 | | | | | | | | | | | | |
| MIN | 0.00 | 0.00 | 1.2 | 0.00 | 2.1 | 0.18 | 5.1 | 0.00 | 0.00 | 0.00 | EACH | 0.05 |
| MAX | 0.40 | 0.50 | 2.0 | 0.30 | 2.9 | 0.28 | 6.1 | 0.20 | 0.05 | 0.05 | TOT | 0.15 |

Aluminum Remainder

TEST NOTES

Metal represented by this test report was 100% immersion ultrasonically tested from one side and meets the Class A and Class B requirements of all specifications referenced on this test report.

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTIRE ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.

MIKE KLOCKE, LABORATORIES SUPERVISOR

